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SOME CYANOPHYCEAN ALGAE FROM THE COASTAL REGIONS OF VISAKHAPATNAM, INDIA

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This paper deals with 5 cyanophycean algae belonging to 4 genera explored from the Visakhapatnam coast of India. These algae are represented by *Stichosiphon sansibaricus* (Hieronynus) Drouet et Daily, *Lyngbya majuscula* Harvey ex Gomont, *L. cinerascens* Kützing, *Trichodesmium hildebrantii* Gomont and *Stigonema mamillosum* (Lyngb.) Agardh ex Bornet et Flahault. Except *Lyngbya majuscula* other four taxa are being new records from the Visakhapatnam coast.

Key words: Cyanophycean algae, India, systematics, Visakhapatnam coast.

In spite of a good quantum of work done on marine blue green algae of India (Iyengar and Desikachary 1944, Umamaheswara Rao and Mohanchand 1988, Subramaniyam and Bhavanarayana 1989, Thajuddin and Subramanian 1990, Silva *et al*. 1996, Jyothibabu, *et al*. 2003, Geeta Madhav and Kondalarao 2004 and Venkataraman 2005) our knowledge about the east coast blue green algae is inadequate. Considering the fact our present study has been undertaken. Here the authors studied the morphotaxonomic details of the collected algae along with their habitat specifications.

MATERIAL AND METHODS

Algal specimens were collected from intertidal zone of Visakhapatnam coast under a low tide condition. The collected samples (Collection no. : V2, V5, V23, V24, V28, V31, V40, V42) were kept in zip lock plastic bags and transparent glass vials with details of date and time of collection, habitat, tide situation, association with other floral and faunal representatives. After removing sand particles and other associated debris, collected samples were preserved in 5% formalin solution made with marine water of the specific collection area. Permanent slides were made from preserved samples. Morphotaxonomic details were worked out from those permanent slides, with the help of Camera Lucida drawings under Olympus GB microscope. The preserved algal samples and permanent slides are stored in Phycology laboratory, the University of Burdwan, West Bengal for future reference. Identifications were made following Geitler (1932), Desikachary (1959) and Prescott (1962).

RESULTS AND DISCUSSION

Following five taxa were observed:

1. *Stichosiphon sansibaricus* (Hieronymus) Drouet and Daily

(Geitler, 1932, p. 411, fig. 239, a-d; Desikachary, 1959, p. 176, pl. 32, fig. 9-13) (Plate: I. Fig.7)

Plants blue green, erect to slightly curved, epiphytic in nature, attached on *Rhodymenia* sp., cells spherical to cylindrical; filament 9-13 µm broad and 165-180 µm high, endospores arranged in uniseriate manner, length of endospore 10-13.5 µm and breadth 5-7 µm, endospore content blue green in color.

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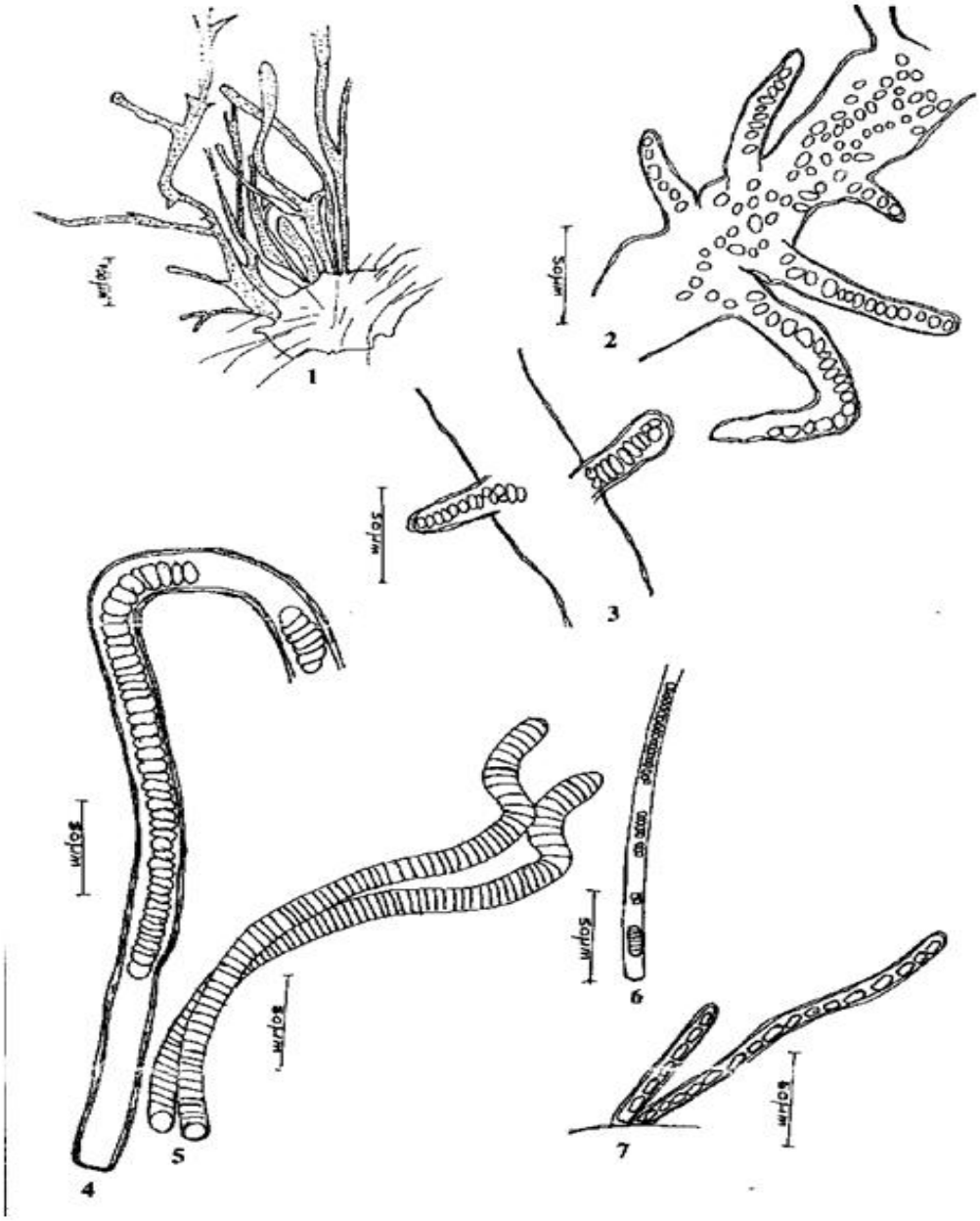

LEGEND TO FIGURES

Figures1-7. 1. *Stigonema mamillosum (thallus with branched portions)* 2. *Stigonema mamillosum (branching pattern with cellular arrangement)* 3. *Stigonema mamillosum (emergence of a branch)* 4. *Lyngbya majuscula (a portion of filament)* 5. *Trichodesmium hildebrantii (paired trichome)* 6. *Lyngbya cinerascens (a portion of filament)* 7. *Stichosiphon sansibaricus (filaments in attached condition)*

The specimen is close in measurements and morphology to *Stichosiphon filamentosus* (Ghose) Geitler [Geitler, 1932, p. 411, fig. 239, a-d] but it is being treated as *Stichosiphon sansibaricus* (Hieronymus) Drouet et Daily by Desikachary (1959), although the present specimen differs from the original description provided by Desikachary. Our specimens are broader.

Collection No. : V23,
Date: 23.10.2006

2. *Lyngbya majuscula* Harvey ex Gomont
(Geitler, 1932, p. 1060, fig. 672, c-d; Desikachary, 1959, p. 313, pl. 54, fig. 6)
(Plate: l. Fig.4).

Filaments long, free floating as well as lodged on seaweeds, yellowish brown in color, straight to slightly curved, sheath 5-6 µm thick, outside rough; trichome light blue green, not constricted at cross wall, 21-27 µm broad, cells short 1/5 times as long as broad, 3-6 µm long, end cell rounded, calyptra not found.

Collection No. : V24**, Date:** 23.10.2006

3. *Lyngbya cinerascens* Kützing
(Desikachary, 1959, p. 315) (Plate: I. Fig.6)

Light blue green colored thallus attached on *Porphyra vietnamensis* Tanaka and Pham Hoang Ho, trichome 5-8 µm broad, cells short; sheath colorless, 1.5-2 µm thick.

Collection No. : V28**, Date:** 23.10.2006

4. *Trichodesmium hildebrantii* Gomont
(Geilter, 1932, p. 968; Desikachary, 1959, p. 245, pl. 42, fig. 3)
(Plate: I. Fig.5)

Trichome found in free floating condition, 10-19 µm broad, unconstricted at cross region and slightly attenuated at the apical portion; cells up to 1/3 as long as broad.

Collection No. : V31, V38**, Date:** 23.10.2006 **5. *Stigonema mamillosum* (Lyngb.) Agardh ex Bornet et Flahault**
(Geilter, 1932, p. 520, figs. 320-324; Desikachary, 1959, p. 613, pl. 135, figs. 3-6; Prescott,1962, p.547, pl.130, figs.1-3)
(Plate: I. Fig.1-3)

Thallus cushion like, brown to dark blackish green, attached with rock surface, filaments up to 7-10 mm high, filaments interwoven, organized in to 40-63 µm broad, highly branched, branches 20-35 µm in diameter, thallus sometimes short mamilliform branches, older portion bearing barrel shaped cells, trichome basically with multiseriate cellular configuration, heterocyst not found.

Collection No. : V2 , V5, Date : 23.10.2006

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